

Monitoring Animal Diseases and Their Impact on Public Health; The Wyoming Regional Veterinary Coordinator Program

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State Public Health Veterinarian
Wyoming Department of Health, USA**

History

- RVC program initiated in 2004
 - Seven regional veterinarians
 - Part time work
- Emphasis mostly on giving bioterrorism preparedness talks in their regions (presentation fatigue, time consuming)
- Passive surveillance only (and very limited)
- 2007 reassessment of program





Challenges to Animal Health Surveillance in Rural Areas

- A formal diagnosis is often not made
 - Clients won't pay for diagnostics/necropsy
 - One time visit to ranch or home
 - Often have suspicions of what it is
- Private or in-clinic labs are used instead of the State Lab



Challenges to Animal Health Surveillance in Rural Areas

- For a practicing veterinarian reporting is at the bottom of the list (but would discuss cases with fellow veterinarian)
- Computers/e-mail seldom used
- Reportable disease lists/mandatory reporting largely ignored

What We Wanted to Accomplish

- Active surveillance (and feedback loop!)
- Collect Information on Any Situation That Could Impact Public Health
 - Confirmed or suspected zoonotic diseases.
 - Diseases common to both humans and animals
 - Environmental exposures
 - Poisonings
 - Undiagnosed illness syndromes
 - Wild animal die-offs
 - Injuries

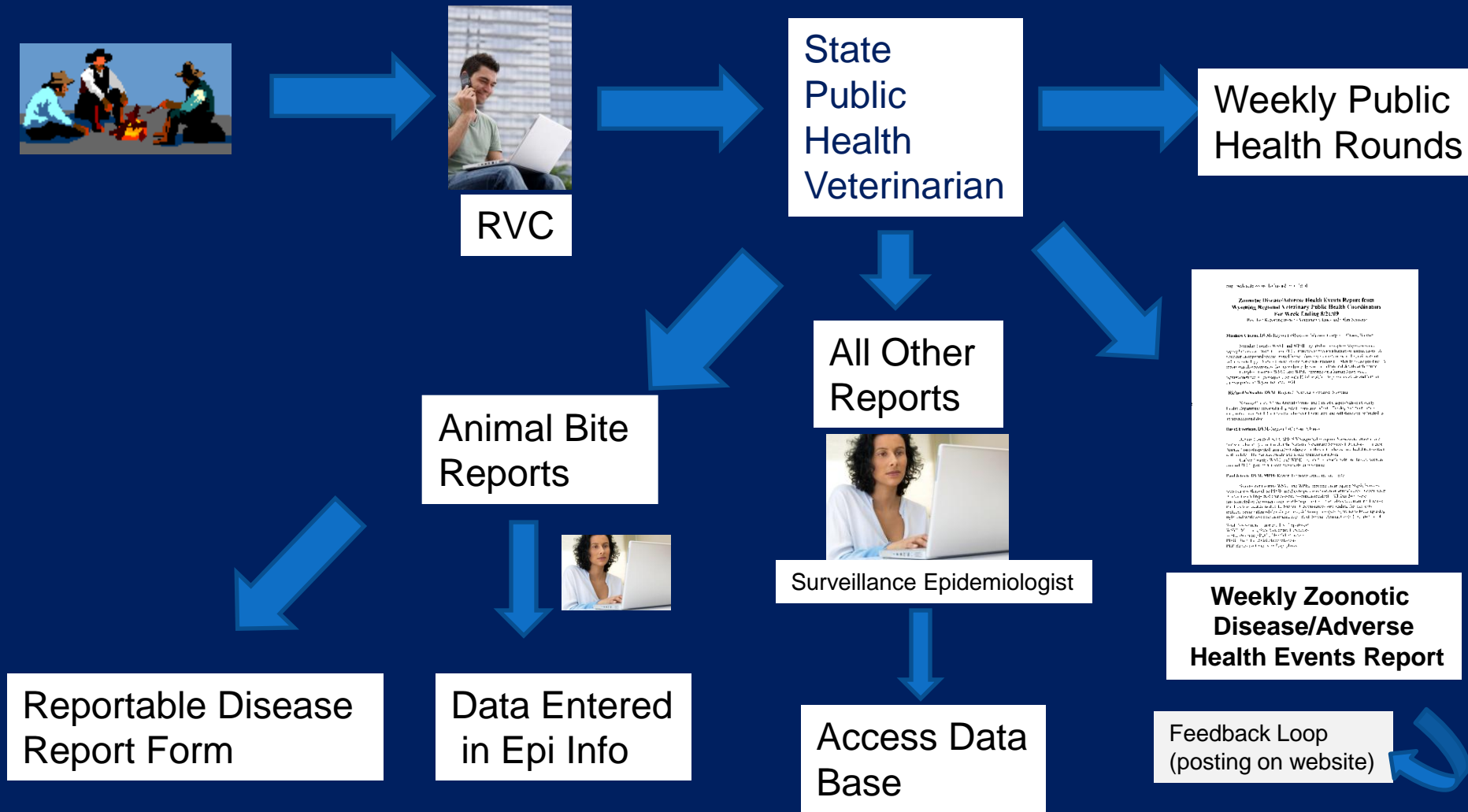
What We Wanted to Accomplish

- Directly link animal and human disease (and environmental health) information (daily/weekly)
- Very limited budget (less than \$85,000/yr)

The Plan

- The RVCs have weekly personal communication with veterinarians in their regions
- Communication by phone, personal visit, e-mail query fax query (ideal: discussion of cases over coffee)
- Estimate spending 2 hours each week on active surveillance
- Salary: \$800 per month (i.e. \$100/ hour)

Flow of Information



**Zoonotic Disease/Adverse Health Events Report from
Wyoming Regional Veterinary Public Health Coordinators
For Week Ending 4/11/08**

(Based on Reporting From 25 Veterinary Clinics)

Matthew Cherni, DVM- Region 1 (Sheridan, Johnson, Campbell, Crook, Weston)

Sheridan County- A veterinarian reported a suspected case of *Strongyloides stercoralis*, a nematode, in a 3 month old puppy that was acquired at a pet store in Montana. A dog bite to a child was reported by a veterinary clinic. The dog was euthanized but not tested for rabies since the bite did not pierce the skin of the child.

Campbell County-WSVL reported a positive rabies test result on a Skunk. The skunk was submitted for testing by USDA/APHIS/Wildlife Services. This is the fourth skunk to test positive in the County this year. A rancher recently diagnosed with campylobacteriosis reported contact with calves.

Puppy Owner Immuno-compromised

Richard Schwahn, DVM- Region 2 (Natrona, Converse, Niobrara)

Natrona County- CDC issued a confinement order for a dog recently imported from South Africa. The dog must be confined until it reaches three months of age. The puppy will then be vaccinated for rabies and confined for another month until the vaccine is protective.

Amanda Loftis, DVM- Region 3 (Carbon, Albany)

Carbon County- A case of giardia in dog was reported. WSVL and Wyoming Game and Fish are investigating several elk deaths southwest of Ravalli. A MRSA in a dog reported a few weeks ago was determined to be *Staphylococcus intermedius*.

Carbon and Albany County- Scours in calves continues to be seen in the area.

Undiagnosed animal die-offs

Paul Jensen, DVM, MPH- Region 4 (Sweetwater, Lincoln, Uinta)

Nothing to Report

Jim Summers-DVM- Region 5 (Fremont, Sublette, Teton)

Sublette County- A woman was attacked by a dog. A judge ordered the dog to be euthanized after a complaint was filed.

Tim Graham, DVM- Region 6 (Park, Hot Springs, YNP, Big Horn, Washakie)

Park County- Campylobacteriosis (bovine) with a human PFGE match reported by WSVL and WPHL

Gary Norwood, DVM- Region 7 (Laramie, Platte, Goshen)

Platte County- A rancher recently diagnosed with campylobacteriosis reported contact with calves during branding.

Goshen County-WSVL reported a positive Q fever test result in a lamb...the herd has a history of multiple stillborn lambs.

WSVL-Wyoming State Veterinary Laboratory

WPHL-Wyoming Public Health Laboratory

PFGE- Pulse Field Gel Electrophoresis



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Wyoming Regional Veterinary Public Health Coordinators

Karl Musgrave, State Public Health Veterinarian

The primary responsibility of the Regional Veterinary Public Health Coordinators (RVPHCs) is to conduct active surveillance in their regions on adverse health events in animals that could impact public health. The RVPHCs accomplish this by contacting veterinary clinics in their region by personal visit, phone, fax, or e-mail each week to collect information on adverse events seen over the past seven days. Information is collected on any situation seen by veterinarians in animals that could impact public health including confirmed or suspected zoonotic diseases.

Diseases that are common to both humans and animals but are not transmitted between the two populations are also reported. Active surveillance is also conducted for environmental exposures, poisonings, undiagnosed illness syndromes, wild animal die-offs, and injuries. Information collected by the RVPHCs is reported to the state public health veterinarian who in-turn presents this information at the Department of Health's Monday morning public health rounds. Possible links between adverse health events seen in animals and in humans are discussed and further investigation and/or preventive interventions are initiated.

Additional work can involve leading or assisting in field investigations and interventions to prevent the spread of animal diseases; coordinating the veterinary aspects of local planning where there are public health implications including giving informational presentations and trainings to appropriate groups; and serving as a veterinary member on Wyoming Office of Homeland Security Regional Response Teams.

As an example of the types of information collected by the surveillance program, during September and October of 2007 information was collected on feline ringworm cases that had spread to humans, cases of tularemia in cats, a large bird die-off in Goshen County, a cat with mycobacterium avium, chronic wasting disease in deer in a new area of Wyoming, sheep with contagious ecthyma, a large die-off of sheep and antelope in Big Horn County (turned out to be due to bluetongue, a non-zoonotic disease), possible methicillin resistant staphylococcus aureus cases in small animals, issues with law enforcement and rabies control, problems dealing with cattle truck accidents and cattle loose on the highway, and a suspected case of anthrax in a Torrington cow (test later showed the cow was negative for anthrax).

Zoonotic Disease & Adverse Event Monthly Surveillance Summary

Data compiled from the Wyoming Regional Veterinary Public Health
Coordinator (WRVPHC) Program

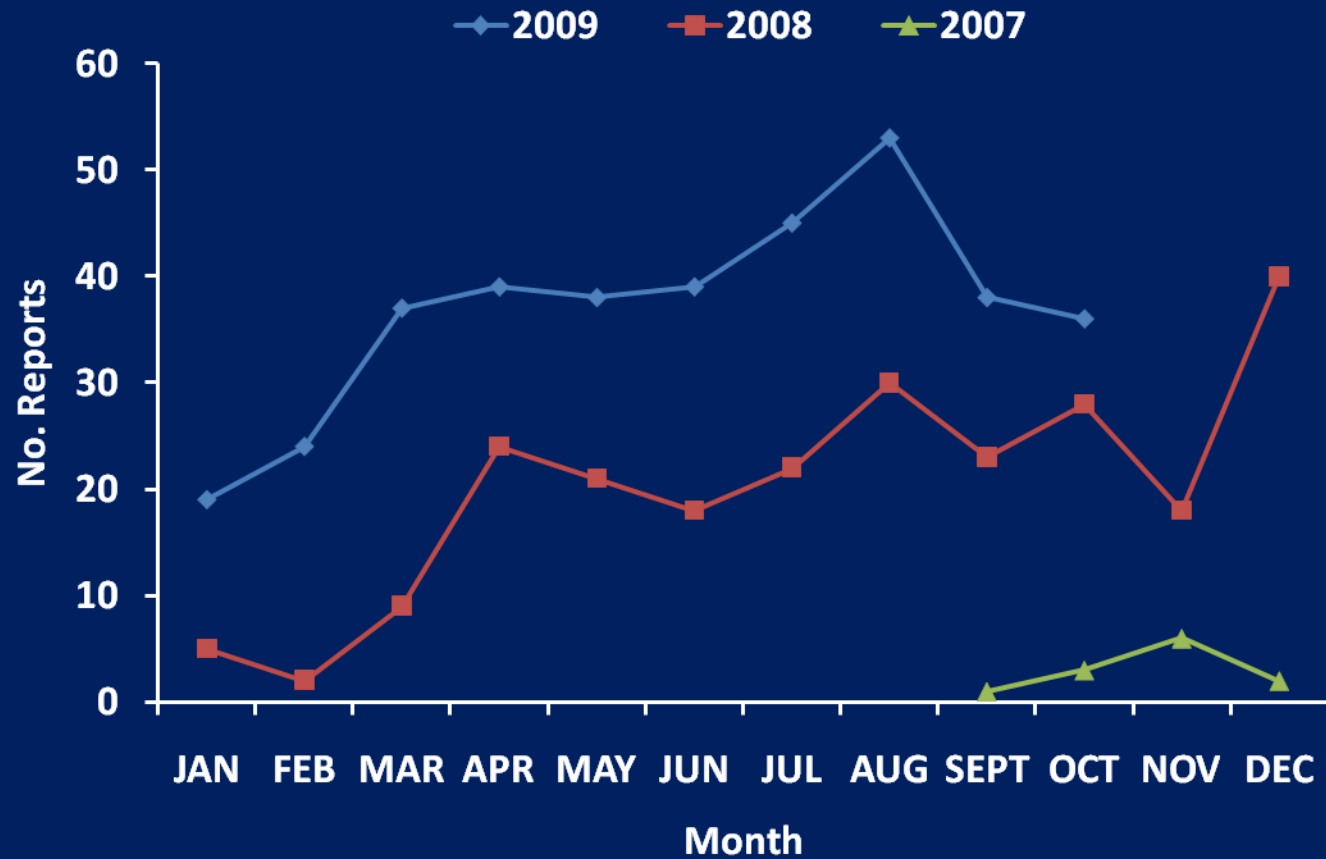
August 2009
Wyoming Department of Health
Karl Musgrave, State Public Health Veterinarian
Emily Thorp, Surveillance Epidemiologist



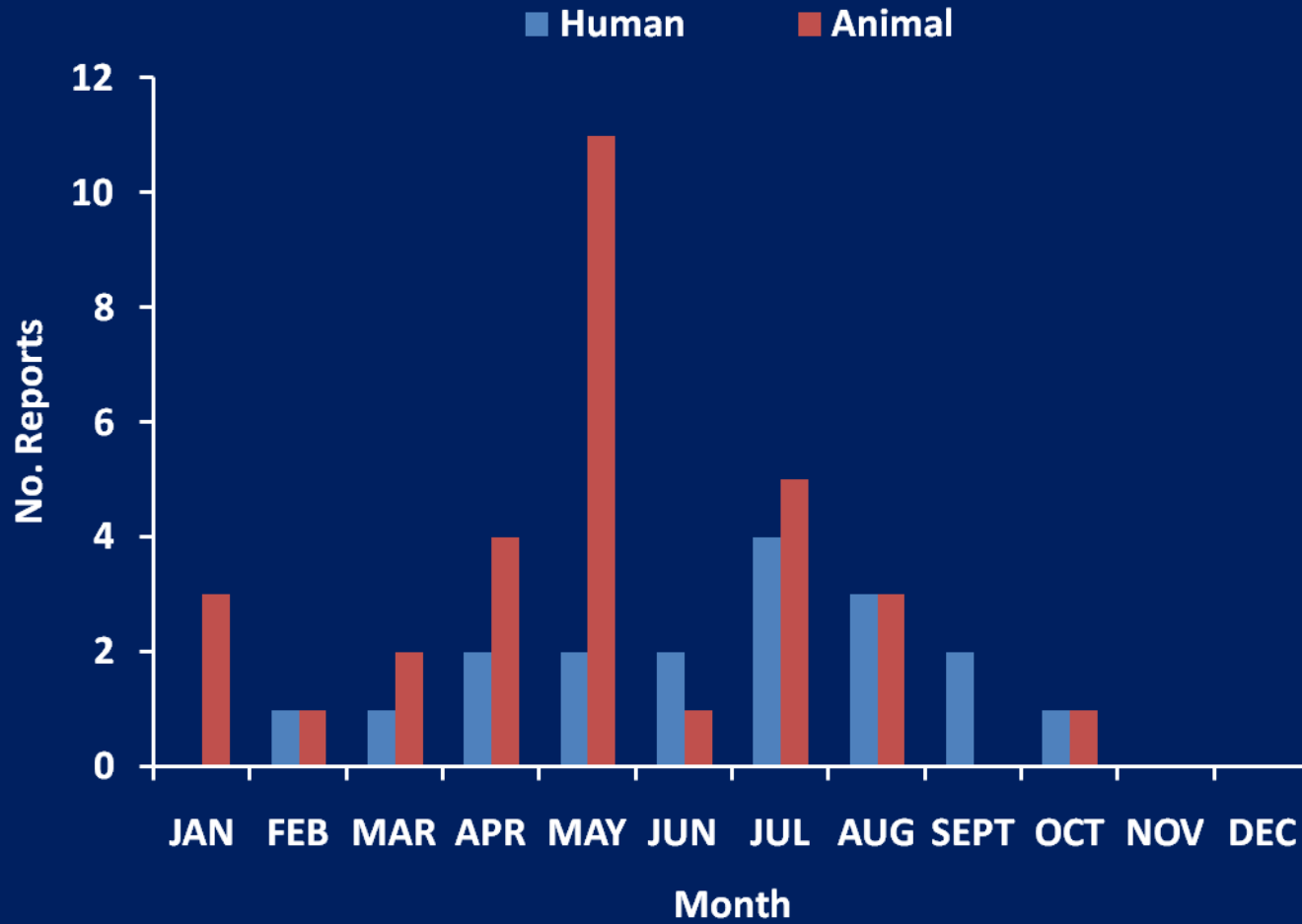
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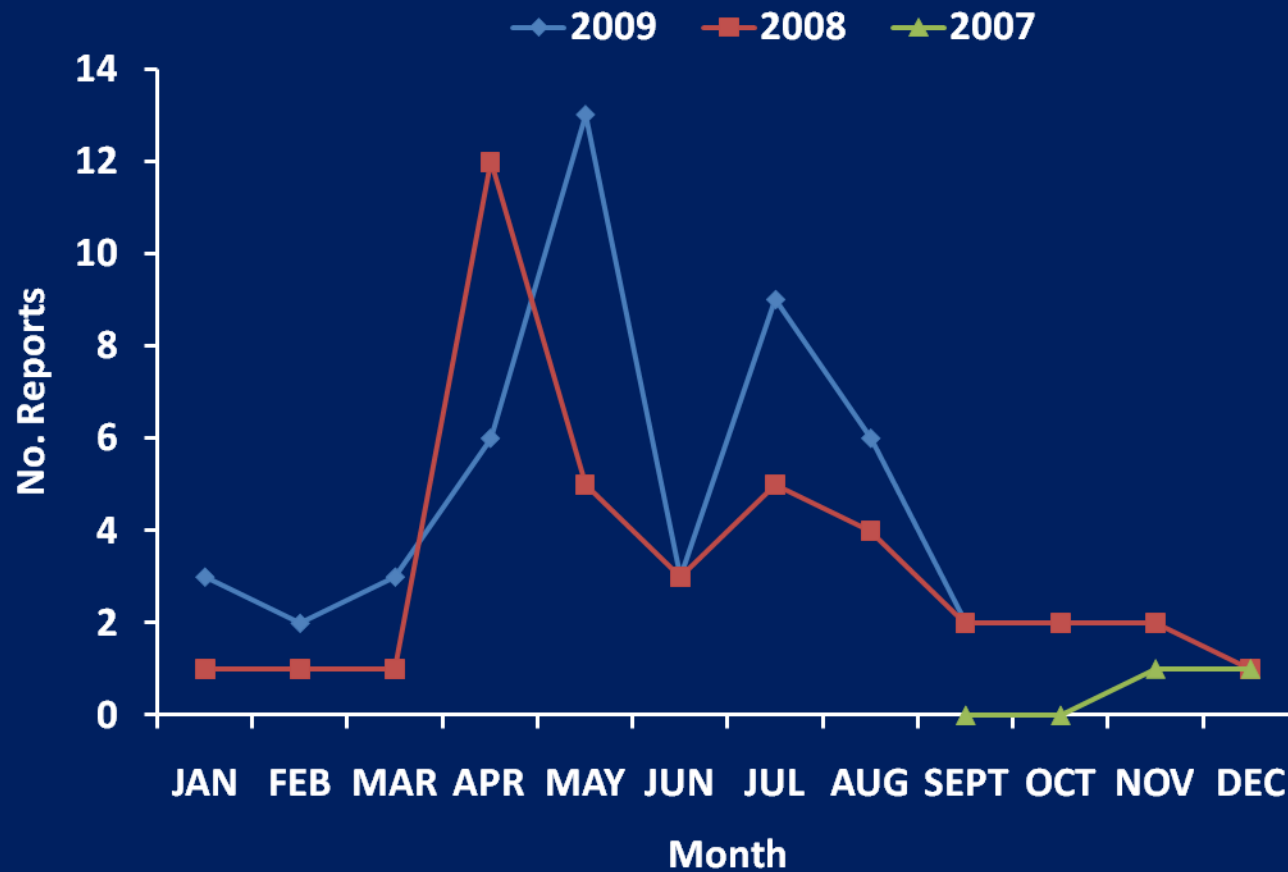
Total Number of Animal-to-human Bite Reports



Number of Campylobacteriosis Reports in 2009



Total Number of Campylobacteriosis Reports



Cattle and *Campylobacter*—Risk Factors in Rural Environments

Annette G. Heryford
Scott A. Seys

"I thought I was a tough cowboy, but I found out that I wasn't so tough after all," one Wyoming cowboy reported during a phone call concerning his recent bout of a gastrointestinal illness called campylobacteriosis. He went on to say that in the middle of July, during 100-degree weather, he was standing outside in the sun wearing his down parka because the chills were so bad that he could not get warm. Of course his friends thought he was crazy. But he was not

tion, get infected every year. Infection with *Campylobacter* often results in bloody diarrhea, abdominal pain, nausea, vomiting, chills, muscle aches, fatigue, and fever. The signs and symptoms of campylobacteriosis typically begin two to five days after exposure to the bacteria but may vary from one to ten days depending on the pathogenicity and number of organisms ingested. Acute symptoms usually last about a week, but may range from several days to several weeks. The illness typically resolves without treatment, although in rare cases arthritis or a type of paralysis called Guillain-Barré Syndrome may result from the infection.

In 2001, the Wyoming Department of Health received reports of 56 confirmed and 2 probable cases of campylobacteriosis among state residents. Determining a definitive source of the infection, especially among sporadic cases, is often difficult if not impossible. Interviews with many of the cases showed exposures to commonly recognized sources of *Campylobacter*. In several cases, consumption of undercooked chicken or unpasteurized milk was reported the week before illness, and several backpackers confessed to drinking untreated stream water within the incubation period. However, during the spring and summer months of 2001, epidemiology personnel noted reports of an unusual source of exposure. Epidemiological



Branding a calf in Wyoming

Limitations and Challenges

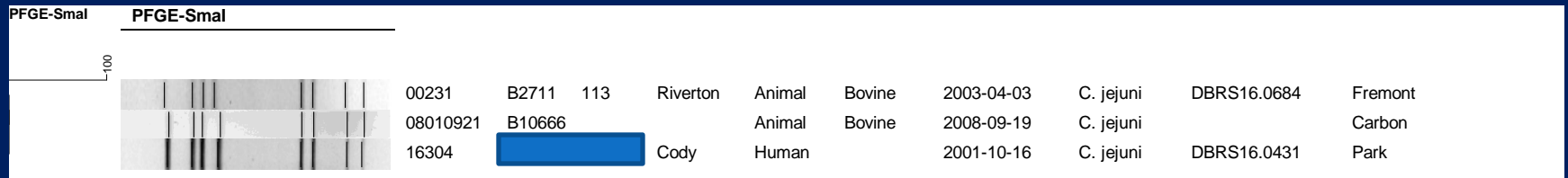
- A few of the RVCs tire of doing active surveillance each week
- Still some reluctance among veterinarians to report (reporting is voluntary)
- May exceed ability to handle increase in animal bite reports

Limitations and Challenges

- Some veterinarians bypass RVCs to report directly to SPHV
- Many diseases/conditions reported are unconfirmed
- Would surveillance system work in other locations ?

Strengths

- Improved sharing of information on animal health, human health and environmental health
 - WVMA Winter Meeting
 - Sharing of investigation results on human enteric illness where there is an animal source
 - PFGE results (salmonella, campy, MRSA) on human and animals now shared



Strengths

- Even veterinarians who don't report small stuff will report something significant
- Discovery of new sources of information/partners



Sponsors

WSVL

**American Veterinary
Medical Foundation
Wyoming Department of
Health**

WVMA Winter Meeting 2009



December 11th-12th

**Best Western Ramkota Hotel
800 N Poplar
Casper, WY**

**12 Hours Scientific Continuing
Competency Requirements**

Speakers:

Robert Harrington-Director, Casper-Natrona County Health Department

Brent Sherard, MD, MPH, FACP-Director and State Health Officer, Wyoming Department of Health

Michael Lappin, DVM, PhD-Professor, Small Animal Medicine, Colorado State University

A P Knight, BVSc, MS-Professor, Integrated Livestock Management, Colorado State University

Mark Dowell, MD- Natrona County Health Officer, Infectious Disease Specialist, Rocky Mountain Infectious Disease, Casper, WY

Chaoqun Yao, MD, PhD-Assistant Professor, Parasitology, Wyoming State Veterinary Laboratory, Department of Veterinary Sciences, University of Wyoming
Tracy Murphy, MD-State Epidemiologist, Wyoming Department of Health

Dale Bratton-Homeland Security Coordinator, Wyoming Livestock Board

Karl Musgrave, DVM, MPH-State Public Health Veterinarian, Wyoming Department of Health

Dan O'Leary, DVM, DACVPM-Captain, United States Public Health Service

Richard Nolan-Senior Consultant to the Director, National Veterinary Stockpile, National Center for Animal Health Emergency Management, Veterinary Services APHIS, USDA

Rick Riesland, DVM-Area Emergency Coordinator for Montana and Wyoming, USDA-APHIS-Veterinary Services

Emily Thorp, MS-Surveillance Epidemiologist, Wyoming Department of Health and the Wyoming Regional Veterinary Coordinator

Kelly Weidenbach-Vigil, MPH-Surveillance Epidemiologist, Infectious Disease Epidemiology Program, Wyoming Department of Health

Wanda Manley, MS- Microbiologist, Wyoming Department of Health Laboratory

Ken Mills, PhD-Professor, Bacteriology, Department of Veterinary Sciences, Wyoming State Veterinary Laboratory, University of Wyoming

Michael Pipas, MS- Wildlife Disease Biologist, USDA/AHPIS Wildlife Services

Debora Burnett, DVM, CVA, PT-Healing Springs Veterinary Care, Saratoga, WY

If you need overnight accommodations, room reservations are available at:

Best Western Ramkota Hotel

Rates for our group are \$70+ tax for single/double occupancy. Please make reservations as soon as possible. Rooms at this rate will be released Dec 1st, 2009; be sure to check the cancellation policy at time of reservation. Please call 800.528.1234 for reservations.

You must mention that you are with the WVMA to receive these rates.

Friday, Dec 11th, 2009

7:30am Registration

8am Welcome

Robert Harrington

Brent Sherard, MD, MPH, FACP

8:30 Zoonoses in Small Animal & Exotics

Michael Lappin, DVM, PhD

10:00 Break

10:15 Zoonoses in Large Animals

A P Knight

11:45 Working Lunch Topic: Zoonotic Diseases in Humans; an Infectious Disease Physician's View

Mark Dowell, MD Sponsored by

Wyoming Department of Health

1:40 Laboratory Diagnosis of Internal and External Zoonotic Parasites

Chaoqun Yao, MD, PhD

2:00 Brucellosis in Humans

Tracy Murphy, MD

2:20 The Role of Veterinarians in Disaster Response

Dale Bratton

Karl Musgrave, DVM, PhD

Dan O'Leary, DVM, DACVPM

2:40 The National Veterinary Stockpile

Richard Nolan

3:00 The National Animal Health Emergency Response Corps

Rick Riesland, DVM

3:20 Break

3:40 Monitoring Animal Diseases and Their Impact on Public Health in Wyoming; the Wyoming Regional Veterinary Coordinator Program

Karl Musgrave, DVM, MPH

Emily Thorp, MS

4:00 Animals as Sources of Enteric Illness in Humans in Wyoming

Kelly Weidenbach-Vigil, MPH

Wanda Manley, MS

Ken Mills, PhD

4:20 USDA/APHIS Wildlife Services; Zoonotic Disease Surveillance of Wildlife in Wyoming

Michael Pipas, MS

4:40 What Would you do?; Zoonotic Disease Case Exercises

Debora Burnett, DVM, CVA, PT

Karl Musgrave, DVM, MPH

Dan O'Leary, DVM, DACVPM

7pm Working Dinner: Appropriate Use of Personal Protective Equipment; Demonstration and Exercise

A P Knight

Josie Traub-Dragatz, DVM, MS Sponsored by

Wyoming Department of Health



Wyoming
Department
of Health

Commit to your health.

Saturday, Dec 12th, 2009

8-12 Wyoming State Veterinary Laboratory Case Studies

Special thank you to the American Veterinary Medical Foundation for providing a one time grant to the Wyoming Veterinary Medical Association.



Registration Form. (please print clearly or type)

Name _____
Clinic Name _____
Address _____
Phone _____
Email _____

Meeting Fees: (please check only one per sheet)

Post Marked Before November 20, 2009

- ☐ \$195 WVMA Member
☐ \$275 WVMA Non-Member

Post Marked on or After November 20, 2009

- ☐ \$235 WVMA Member
☐ \$305 WVMA Non-Member

Anytime

- ☐ \$85 Techs not accompanied by a DVM

DVMs If you are bringing a Student or Tech please include name: _____

Cancellation Policy: 50% before November 31st, 2009

All meals are included with full registration.

Method of Payment:

Amount: \$ _____

Credit Card # _____ Exp. date _____

Name on Card _____

Address Filed with Credit Card Company _____

Signature _____

Mail completed registration form and check to:
WVMA; 1841 W. Secluded Ct.; Kuna, ID 83634
or for credit card processing, fax to: 208.922.9435

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